

## CLAIMS

1. An internal antenna of small volume comprising:

- a conductive ground plane;
- a first conductive surface placed in an antenna  
5 plane substantially parallel to the ground plane and  
partially surrounding a portion of the antenna plane, and  
presenting first and second ends;
  - a second conductive surface forming a main  
radiating assembly disposed essentially in said portion  
10 of the antenna plane, said two conductive surfaces not  
being connected together by any conductive electrical  
connection;
  - an antenna conductor connected to said second  
conductive surface;
  - 15 • first electrical connection means for connecting a  
first end of the first conductive surface to a first zone  
of the ground plane; and
  - second electrical connection means for connecting  
said first surface at least in the vicinity of the second  
20 end of the first conductive surface to a second zone of  
the ground plane that is distinct from the first zone;
- the assembly constituted by said first conductive  
surface, the portion of the ground plane electrically  
interconnecting the first and second zones, and the two  
25 connection means presenting an opening.

2. An antenna according to claim 1, wherein said first  
and second conductive surfaces are made on a face of an  
insulating support or a dielectric substrate that is  
30 substantially parallel to the ground plane.

3. An antenna according to claim 2, wherein a portion of  
said second conductive surface is made on the second face  
of the insulating support or the dielectric substrate.

4. An antenna according to claim 1, wherein said first and second conductive surfaces are cut-out pieces of metal sheet.

5 5. An antenna according to claim 4, wherein said first and second electrical connection means are extensions of the piece of sheet forming the first conductive surface, said extensions being bent through a right angle and having ends bonded to the ground plane.

10

6. An antenna according to claim 1, wherein said opening is formed in said first conductive surface.

15

7. An antenna according to claim 1, wherein said opening is made in the ground plane on the path interconnecting said two zones.

20

8. An antenna according to claim 1, further including impedance-matching means between said first and second conductive surfaces.

25

9. An antenna according to claim 8, wherein said impedance-matching means are made by providing a predetermined distance between a portion of said first surface and a portion of the second surface.

30

10. An antenna according to claim 4, wherein said impedance-matching means are made by a capacitive component mounted between said two surfaces.

35

11. An antenna according to claim 1, further comprising second impedance-matching means mounted on the assembly constituted by the first conductive surface and the portion of the ground plane interconnecting said zones.

12. An antenna according to claim 11, wherein said second impedance-matching means are constituted by a slot in the ground plane.

5 13. An antenna according to claim 11, wherein said second impedance-matching means are constituted by a capacitive component mounted on said zone of said assembly  
constituted by the first conductive surface and said  
portion of the ground plane on the path between said  
10 zones.